

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

MONITORING AND REPORTING PROGRAM NO. R9-2005-0183  
FOR THE  
COUNTY OF RIVERSIDE  
ANZA SANITARY LANDFILL  
RIVERSIDE COUNTY

**A. MONITORING PROVISIONS**

1. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by the Regional Board. Specific methods of analysis must be identified. If methods other than U.S. EPA approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.
2. If the Discharger monitors any pollutants more frequently than required by this Order, using the most recent version of Standard U.S. EPA Methods, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharger's monitoring report. The increased frequency of monitoring shall also be reported.
3. The Discharger shall report all instances of noncompliance not reported under **Reporting Requirement E.5** of this Order at the time monitoring reports are submitted. The reports shall contain the information listed in **Reporting Requirement E.5**.
4. Sample collection, storage, and analysis shall be performed according to protocols included in the USEPA "SW-846: Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods (Version 5, dated April 1998, or the most recent version of SW-846), and in accordance with an approved sampling and analysis plan.
5. All monitoring instruments and equipment shall be properly calibrated and maintained as necessary to ensure accuracy of measurements.
6. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and copies of all reports required by this Order. Records shall be maintained for a minimum of *five years* from the date of the sample, measurement, report or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board.
7. Records of monitoring information shall include:

- a. The date, identity of sample, monitoring point from which it was taken, and time of sampling or measurement;
  - b. The individual(s) who performed the sampling or measurements;
  - c. Date and time that analyses were started and completed, and the name of the personnel performing each analysis;
  - d. The analytical techniques or method used, including method of preserving the sample and the identity and volumes or reagents used;
  - e. Calculation of results;
  - f. Results of analyses, and the method detection limit (**MDL**) for each parameter; and
  - g. Laboratory quality assurance results (*e.g.*, percent recovery, response factor).
8. The monitoring reports shall be signed by an authorized person as required by **Reporting Requirement E.13** of this Order.
9. The Discharger shall ensure that the laboratory analysis of all samples from monitoring points and background monitoring points comply with the following requirements:
- a. The methods of analysis and the detection limits used shall be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (*i.e.*, “trace” or “ND”) in data from background monitoring points for that medium, the analytical method having the lowest MDL shall be selected from among those methods which would provide valid results in light of any matrix effects involved.
  - b. Analytical results falling between the MDL and the practical quantitation limit (**PQL**) shall be reported as “trace” and shall be accompanied both by the nominal or estimated MDL and PQL values for that analytical run.
  - c. MDLs and PQLs shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These nominal MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs.

If the lab suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical result differs significantly from the laboratory-derived nominal MDL/PQL values, the results shall be flagged accordingly, along with estimates of the detection limit and quantitation limit actually achieved. The MDL shall always be calculated such that it represents a concentration associated with a 99% reliability of a non-zero result. The PQL shall always be calculated such that it represents the lowest constituent concentration at which a numerical value can be assigned with reasonable certainty that it represents the constituent's actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.

- d. All Quality Assurance/Quality Control (QA/QC) data shall be reported, along with the sample results to which it applies, including the method, equipment, and analytical detection and quantitation limits, the recovery rates, an explanation for any recovery rate that is less than 80%, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recovery. In cases where contaminants are detected in QA/QC samples (*i.e.*, field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.
- e. Upon receiving written approval from the Regional Board, an alternative statistical or non-statistical procedure may be used for determining the significance of analytical results for a constituent that is a common laboratory contaminant (e.g., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate) during any given Reporting Period in which QA/QC samples indicate evidence of laboratory contamination for that constituent. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by the Regional Board.
- f. Unknown chromatographic peaks shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.
- g. The MDL and PQL shall be determined in accordance with the definitions of those terms in Title 27, California Code of Regulations (**CCR Title 27**). In the event that a Monitoring Parameter's (MPar) MDL and/or PQL change, the Discharger shall highlight that change in the report's summary, and the report shall include an explanation for the change that is written and signed by the owner of the analytical laboratory.

10. A list containing definitions of terms and acronyms are contained in Appendix A attached to this Monitoring and Reporting Program (**M&RP**).
11. After July 1, 2005, the Discharger shall submit any reports required by this Order electronically, in accordance with § 3890 *et. seq.* of the California Code of Regulations, Title 23, Division 3. The Discharger shall also continue to provide complete paper copies of all technical and monitoring reports to this Regional Board.
12. Pursuant to CCR Title 23, §3895(b), the agency may require the Discharger to submit reports in an “alternative form”:

“ (b) In addition to the electronic submittal of reports required pursuant to this Chapter, a regulatory agency may require the submittal of a report, or portions thereof, in diskette, compact disc or other form if the agency determines that the alternative form is necessary. The burden, including cost, of these alternatives forms shall bear a reasonable relationship to the need for alternative form and benefits to be obtained from the alternative form.”

The Regional Board cannot effectively review electronic versions of oversized figures and tables greater than 8 ½ by 11 inches in size. In addition, the Regional Board is not equipped to provide paper copies of oversized submittals or make electronic copies of intermittent voluminous electronic documents available for public review. As a result, the regulations allow for the Regional Board to require the Discharger continue to provide complete paper copies of all submittals after **July 1, 2005**.

## **B. GROUND WATER MONITORING FINDINGS**

1. Ground water beneath the Anza Landfill contains concentrations of waste constituents for one or more MPars in samples collected from downgradient monitoring well A-5. Therefore, pursuant to 40 CFR §258.54(c)(2) and CCR Title 27 §20385(a)(2), this Order requires the Discharger to initiate a Federal Assessment Monitoring Program (**AMP**), meeting the requirements of 40 CFR §258.55, in addition to an Evaluation Monitoring Program (**EMP**), meeting the requirements of CCR Title 27 §20425.
2. Ground water beneath the Anza Landfill has measurably exceeded the Water Standard for one or more federal (Appendix II) constituents. Therefore, pursuant to 40 CFR §258.55(g)(1)(iv), this Order also requires the Discharger to initiate an Assessment of Corrective Measures (**ACM**) and Selection of Remedy (**SOR**) meeting the requirements of 40 CFR §258.56 and §258.57, respectively, in developing a proposed Corrective Action Plan (**CAP**).
3. On August 15, 2003, the County of Riverside submitted a Subtitle D checklist that demonstrated its compliance with applicable Subtitle D requirements.

4. This Order implements State Water Resources Control Board (SWRCB) Resolution No. 93-62 by requiring the Discharger who owns or operates a landfill that has undergone a release to implement an EMP, by Title 27, and to implement all additional responses, including those required by 40 CFR §258.54(c) and §258.55(g).
5. This Monitoring and Reporting Program (M&RP) places the entire Anza Landfill into an EMP so that the Discharger may plan and propose corrective measures meeting applicable State and Federal regulations applicable to ground water monitoring at municipal solid waste landfills. Subsequently, the Discharger will implement a CAP. This approach eliminates the complexity associated with applying concurrent programs – *i.e.*, running unaffected portions under a Detection Monitoring Program, and the portions affected by the release under either an EMP or a CAP, or both. The Regional Board chooses to implement this approach by documenting and responding to the compliance status of each MPar individually at each compliance well separately – *i.e.*, the Discharger will track the compliance status of each such “well/MPar pair” separately.
6. Under this Order, at any given time, each well/MPar pair will be in one of two compliance status states. Prior to the MPar’s exhibiting a measurably significant exceedance at a given well, that well/MPar pair will be in “Detection Mode” and monitoring will involve statistical or nonstatistical data analysis designed to detect an unnatural increase at that well for that MPar. Once a well/MPar pair exhibits a measurably significant increase, it will change to “Tracking Mode” and monitoring will involve concentration-versus-time plotting to document changes in the release. Once in Tracking Mode, a well/MPar pair can return to Detection Mode only upon inception of the proof period to demonstrate the successful completion of corrective action.
7. Given that Detection Mode testing can be compromised by a COC arriving at any background well either as a result of the release (*e.g.*, through advective flow, in the unsaturated zone, of gas-phase VOCs in landfill gas) or through the arrival of such a constituent from an upgradient source, this Order implements a simple means for identifying such anomalies, requires the Discharger to investigate their cause, and initiates appropriate adjustments to the monitoring program.
8. Like most landfills, the Anza Landfill exhibits natural geographic variation (between-well variation) using the median concentration of any given MPar. Under such conditions, comparing background data collected from “background wells” against data collected from downgradient wells may increase the chance that Evaluation Mode monitoring will fail to recognize a real release. These conditions may also increase the rate of occurrence of false-positive indications of a release. In order to mitigate these problems, the Regional Board has structured this M&RP to allow the Discharger to implement an intra-well comparison style of monitoring well/MPar pairs for which this approach is feasible. Under this approach, the well’s prior data are used as the reference against which new data are tested.

9. This M&RP minimizes the occurrence of false-positive indications in two ways: **a)** it includes a nonstatistical data analysis method, meeting CCR Title 27 §20415(e)(8 & 9), that collectively analyzes all MPars, at a given well, whose background data exceeds its respective Method Detection Limit (**MDL**) no more than 10% of the time; and **b)** all statistical and nonstatistical data analysis methods used on well/MPars in Detection Mode data analyses, under this M&RP, include a discrete retest as described under CCR Title 27 §20415(e)(8)(E).
10. To assure compliance with the requirements and considerations under 40 CFR §258.55-§258.57 and CCR Title 27 §20425, this M&RP: **a)** requires statistical or nonstatistical data analysis, at any given compliance well located outside of the release, for those MPars that are in Detection Mode at that well; **b)** requires concentration-versus-time plotting, at any given compliance well within the release, for all MPars that are in Tracking Mode at that well; **c)** utilizes an initial scan for all Appendix II constituents at all point of compliance wells involved in the release to be sure that the MPar and COC lists include all Appendix II constituents detectable in ground water; **d)** thereafter, uses a periodic (at five-yearly intervals) presence/absence screening of all COCs, rather than statistical/nonstatistical data analysis, at all appropriate wells to keep the MPar list updated to include all COCs that are detectable in ground water; **e)** uses annual vadose zone gas sampling, for all non-COC Appendix II constituents, to keep the COC list updated to include all Appendix II constituents that the landfill could release; and **f)** implements an automatic update procedure to assure that the MPar and COC lists remain current.
11. In the absence of an alternative ground water monitoring protocol required by the State, the Federal regulations require the Discharger to monitor all ground water-monitoring wells for all waste constituents listed in Appendix II to 40 CFR, Part 258, §258.55(b). In order to focus the scope, and reduce the costs, of monitoring for waste constituents identified as ground water monitoring MPars; this monitoring program requires the Discharger to:
  - a. Analyze for volatile organic constituents listed in Appendix I to 40 CFR, part 258;
  - b. Allows the Discharger to use surrogate species (*i.e.*, pH, Total Dissolved Solids – TDS, Chloride – CL, sulfate – SO<sub>4</sub>, and NO<sub>3</sub> – nitrate; see monitoring program section C.3 below) to monitor ground water at the Unit for a release of metals listed in Appendices I and II to 40 CFR, Part 258; and
  - c. Gives the Discharger the option of choosing to analyze for volatile organic constituents using soil vapor samples from a soil vapor-monitoring network (soil gas probes) or an active landfill gas (LFG) control system at the Anza Landfill. Analytical results from soil vapor (or LFG) samples may be used to identify additional specific volatile organic constituents (*i.e.*, COCs) listed in Appendix II to 40 CFR, Part 258, that are actually being generated by the wastes within the

Anza Landfill. All additional volatile organic constituents listed in Appendix II to 40 CFR, Part 258, that have been detected and verified by retest of vapor samples, collected from properly constructed and maintained soil vapor monitoring probes or an active landfill gas (LFG) control system, may be added to the list of ground water MPars for the Evaluation Monitoring Program.

### C. EVALUATION MONITORING PROGRAM

1. The ground water monitoring network for the Anza Landfill is comprised of background wells and compliance wells. The background (upgradient) monitoring wells are: A-1, A-2A, and A-6. The compliance monitoring wells are: A-3, A-4 and A-5. The locations of these ground water-monitoring wells are shown on Attachment No. 1 to this M&RP.
2. Local residents currently utilize a deep aquifer for domestic supply wells in areas located downgradient from the Anza Landfill. Therefore, the Discharger shall monitor the deep aquifers in accordance with the performance requirements set forth in CCR Title 27 §20405 and §20415. The Discharger shall provide the Regional Board with the following reports:
  - a. A technical report containing a technical analysis of all the technical factors and information used to determine the stratigraphic interval(s) currently used by the local domestic water supply wells to produce potable water to well owners located down hydrologic gradient from the Anza Landfill.
  - b. A workplan, proposing the installation and development, monitoring and reporting of results from ground water wells to detect the migration of any waste constituents into the deep aquifer

The technical report and workplan shall be provided to the Regional Board within **120 days** of the adoption of this Order. Once established, the deep aquifer monitoring wells will be added to the overall ground water monitoring and reporting requirements for the Anza Landfill, and shall be monitored and maintained in accordance with this M&RP.

3. Water samples shall be collected, analyzed, and reported as shown in the following table:

MONITORING PARAMETERS	UNITS	SAMPLING AND REPORTING FREQUENCY
PH	pH	Semi-Annually
Total Dissolved Solids	mg/l	Semi-Annually
Chloride	mg/l	Semi-Annually
Sulfate	mg/l	Semi-Annually
Nitrate as Nitrogen	mg/l	Semi-Annually
Organic Constituents*	µg/l	Semi-Annually

Note: mg/l = milligrams/liter and µg/l = micrograms/liter

\* Organic Constituents shall include volatile organic constituents listed in Appendix I and all additional volatile organic constituents listed in Appendix II that have been detected and verified by retest of vapor samples, collected from a soil vapor monitoring system or an active landfill gas (LFG) control system, collected to comply with Evaluation Monitoring Program C.10. In the absence of a soil vapor monitoring or active LFG control system, the “Organic Constituents” referenced above shall include all volatile organic constituents listed in Appendix II to 40 CFR, Part 258.

4. The Discharger shall establish and maintain ground water wells at the landfill to be used as part of the ground water monitoring program.
5. Prior to pumping monitoring wells for sampling, the static water level shall be measured to the nearest 0.01 ft. in each well.
6. For any given monitored medium, samples shall be collected: 1) from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period; 2) during the latter third of the reporting period within a span not exceeding **30 days**; and 3) in a manner that insures sample independence to the greatest extent feasible. Sample procurement shall be carried out as late in the reporting period as feasible, considering the time needed to analyze the samples, analyze the resulting data, and to prepare and submit the monitoring report within **30 days** after the end of the reporting period.
7. Prior to sampling the monitoring wells, each well shall be assessed for the presence of a floating immiscible layer at the beginning of each sampling event. This shall be done prior to any other activity that may disturb the surface of the water in a well, *e.g.* water level measurements. If an immiscible layer is found, the Discharger shall notify the Regional Board within **24 hours**.

8. For each monitoring well, the Discharger shall measure the water level and determine ground water flow rate and direction at least quarterly, including the times of expected highest and lowest elevations of the water level for the respective ground water aquifer. Ground water elevations for all background and downgradient monitoring wells completed in a given ground water aquifer shall be measured within a period of time short enough to avoid temporal variations in ground water flow, which could preclude accurate determination of ground water flow rate and direction. The semi-annual monitoring reports shall include information regarding the measured depth to ground water, the calculated elevation of ground water, ground water flow rate, and the direction of ground water flow.
9. Ground water sampling shall also include an accurate determination of parameters (pH, temperature, electrical conductivity and turbidity) for each monitoring point or background monitoring point [CCR Title 27 §20415(e)(13)].
10. **Five Year COC Scan**
  - a. Every *five years*, subsequent to the initial Appendix II scan (under *Evaluation Monitoring Program Specification D.2.c*), the Discharger shall analyze a sample from each ground water monitoring well known to be within the release (as described in *Evaluation Monitoring Program C.10.a.i & ii* below) for the detectable presence (including trace determinations) of all COCs not yet known to be part of the release, including all Appendix II constituents (Attachment No. 2 to this M&RP). This evaluation will include all volatile organic constituents listed in Appendix II, that have been detected and verified in vadose zone soil vapor samples collected from properly constructed and maintained vapor monitoring probes as part of a soil vapor monitoring system or an active LFG control system (see *Evaluation Monitoring Program Specification D.6*), but not yet identified as part of the release. This constitutes the means by which the Discharger continues to meet the requirements of 40 CFR §258.55(b-d). [Note: See *Reports to be Filed with the Regional Board H.4*].
    - i. A minimum of one sample from each affected well must be collected and analyzed during each COC scanning event. If a COC is detected (including trace value) that is not yet on the MPar list, the Discharger shall, within **30 days**, collect a single resample from the indicating well(s) and reanalyze it only for the newly-detected constituent(s).
    - ii. Any COC detected in samples collected from a ground water monitoring well, and verified by a retest, automatically becomes part of the MPar list for the facility. The Discharger shall notify the Regional Board of any such change **immediately**, via phone, facsimile or e-mail and shall note prominently the constituent(s) added to the MPar list in the next scheduled monitoring report, along with a listing of which well(s) were involved in this detection and verification. In addition, the updated MPar

list must be noted in the Facility's Operating Record within **14 days** of verification, permanently adding these constituents to the landfill's MPar list. Within **seven days** of amending the Facility's Operating Record pursuant to this section, the Discharger shall also provide written notification to the Regional Board indicating that they have made the amendment and including a complete revised MPar list for the facility.

## 11. Site Inspections

- a. At a minimum, a site inspection shall be conducted **quarterly** and include an evaluation of all systems including, but not limited to, the landfill gas collection system, condensate, sumps, and run-on and runoff drainage control structures. The inspection reports shall contain information on the site condition and a discussion of any significant findings with regard to:
  - i. General site condition;
  - ii. The condition of the landfill cover system, including the top deck, intermediate benches and side slopes;
  - iii. The condition of the storm water conveyance system;
  - iv. The effectiveness of erosion control BMPs;
  - v. The condition of water quality monitoring wells;
  - vi. Maintenance activities performed at the site; and
  - vii. Condition of temporary soil stockpiles at the site.
  - viii. The condition of vadose zone gas monitoring probes and/or the LFG control system.
- b. All deficiencies identified, and photographed and shall be recorded in a permanent log. The volume of liquids collected in each containment structure shall be recorded **quarterly**.
- c. The waste management unit shall be evaluated and a determination made as to the adequacy of its waste containment system.
- d. During dry weather conditions, the effectiveness of the surface water conveyance and drainage control systems shall be evaluated on the basis of its conformance to the as-built drawings, or revisions thereto, for the system.
- e. The quarterly inspection reports shall be included as an appendix in the next semiannual monitoring report.

## D. EVALUATION MONITORING SPECIFICATIONS

1. The Discharger shall comply with the requirements of CCR Title 27 §20415 for any water quality-monitoring program developed to satisfy CCR Title 27 §20420, §20425, or §20430; and the requirements of this Order.

- a. The ground water monitoring shall meet the applicable requirements of CCR Title 27 §20415(b) and 40 CFR §258.51 (a, c, and d);
  - b. All monitoring and data analysis shall be in accordance with the general monitoring requirements of CCR Title 27 §20415(e), 40 CFR §258.53, or other options as provided in this Order;
  - c. At a minimum, the ground water monitoring MPars shall include the following:
    - i. All volatile organic constituents listed in Appendix I to 40 CFR, Part 258, and
    - ii. All additional volatile organic constituents listed in Appendix II to 40 CFR, Part 258, that have been detected and verified by retest of vapor samples collected from properly constructed and maintained soil vapor monitoring probes or an active landfill gas (LFG) control system, collected to comply with Evaluation Monitoring Program C.10, or
    - iii. In the absence of a soil vapor monitoring or active LFG control system, the “Organic Constituents”, referenced above in Section C.3 of this Monitoring Program, shall include all volatile organic constituents listed in Appendix II to 40 CFR, Part 258.
2. The Discharger shall conduct water quality monitoring at the Anza Landfill in compliance with CCR Title 27 §20425 (Evaluation Monitoring Program, or EMP), 40 CFR §258.55 (Assessment Monitoring), and Evaluation Monitoring Program Specifications pursuant to this Order:
- a. The Discharger shall submit an assessment of the effectiveness of the landfill’s current evaluation monitoring program semiannually in accordance with **Reporting Requirements I**, of this M&RP. As of the effective date of this Monitoring and Reporting Program, the concentration limits for each MPar is established as its respective background concentration;
  - b. The Discharger shall annually sample, analyze and report analytical results from vapors, collected from the vadose zone vapor probes or active Landfill Gas (LFG) system, for all volatile organic constituents listed in Appendix II not historically detected in landfill gas, and shall perform verification re-sampling within six (6) months of the preliminary identification of any newly-detected constituents. Upon detection and verification of a new Appendix II constituent in soil vapor/landfill gas, the Discharger shall, *within 14 days*: 1) add the new constituent(s) to the landfill’s MPar list; 2) include the revised MPar list in the Operating Record; 3) provide the Regional Board with an updated MPar list, together with a list of the constituent(s) added during that reporting period. Once soil vapor or LFG monitoring has identified a new MPar, the Discharger

shall note it prominently in the next monitoring report, together with each such new MPar's concentration in the soil vapor/landfill gas.

- c. In the event that any MPar involved in the release migrates offsite, notify all off-site affected parties [under 40 CFR §258.55(g)(1)(iii)] **within 30 days** after discovery or confirmation. Thereafter, keep this list updated and, **within 30 days** of creating or updating the list, provide a copy to the Regional board and place a copy into the operating record.

### 3. **Water Quality Protection Standard**

The five parts of the Water Quality Protection Standard [Standard] of CCR Title 27 §20390 are as follows:

- a. **Constituents of Concern (COC) [CCR Title 27 §20395].**

The current COCs for the Anza Landfill are listed in Attachment No. 2 to this M&RP, including any updates made pursuant to *Evaluation Monitoring Program Section C.10* of this M&RP. Nevertheless, under this M&RP, statistical and non-statistical data analysis is limited to those COCs that are on the current list by virtue of their being present in detectable levels in ground water.

- b. **Concentration Limits [CCR Title 27 §20400].**

The concentration limit for any given well/MPar pair is its applicable background data set, as determined or updated pursuant to *Evaluation Monitoring Specification D.7 or D.9* of this M&RP.

- c. **POC & Monitoring wells [CCR Title 27 §20405].**

The point of compliance (POC) and compliance wells are shown in Attachment No. 1 to this M&RP.

- d. **Monitoring Points and Background Monitoring Points for Evaluation Monitoring [CCR Title 27 §20405].**

The existing monitoring points and background monitoring points for the evaluation-monitoring program are shown in Attachment No. 1 to this M&RP. Once established, the Discharger shall amend Attachment No. 1 to this M&RP adding the location(s) of any additional deep aquifer monitoring wells. In addition, the updated version of Attachment No.1 must be noted in the Facility's Operating Record within **14 days** of verification, adding the well(s) to the landfill's ground water monitoring network. Within **seven days** of amending the Facility's Operating Record pursuant to this section, the Discharger shall also

provide written modification to the Regional Board indicating that they have made the required revision and include a complete copy of the revised Attachment No.1 for the facility.

e. **Compliance Period [CCR Title 27 §20410].**

The minimum compliance period for the Anza Landfill is 30 years. However, the landfill post-closure maintenance period shall continue until the Regional Board determines that remaining wastes in the waste management unit (WMU) will not threaten water quality [CCR Title 27 §20950(a)(1)].

4. The Regional Board may approve alternative monitoring parameters that meet the requirements of both CCR Title 27 §20380 *et seq.*, and 40 CFR §258.54. The Regional Board may also approve alternative statistical or non-statistical methods that meet the requirements of CCR Title 27 §20415(e) and 40 CFR §258.53.
5. The Discharger shall install any additional ground water, vadose zone monitoring/vapor monitoring probes, or leachate monitoring devices necessary to comply with this M&RP.
6. **Establishing Initial COC Data**
  - a. For any COC that does not have at least 16 data points of data at any given compliance well (*e.g.*, for a new COC established under *Evaluation Monitoring Program C.10*), the Discharger shall establish the prevailing concentration of that constituent at each such data-deficient well by collecting and analyzing one sample monthly at each data-deficient background and downgradient monitoring point until each such well has at least 16 data points.
  - b. For any upgradient or downgradient well installed after the effective date of this M&RP, the Discharger shall establish the prevailing concentration for each COC by using an accelerated sampling schedule for sixteen (16) months. These data shall be used, as described in *Evaluation Monitoring Specification D.7 (a through c)*, in the event that the COC becomes an MPar. For any constituent where monthly sampling would be too frequent to obtain reasonably independent data, even using the post-sampling purge approach described in CCR Title 27 §20415(e)(12)(B), the Discharger shall include, a propose a date for completion of data procurement and a well- and constituent-specific technical validation for any delay of more than one month between successive sampling dates.
  - c. For volatile organic constituents, the ground water monitoring MPars shall include:

- i. All volatile organic constituents listed in Appendix I to 40 CFR, Part 258; and
- ii. Any additional volatile organic constituents detected and verified in samples of soil vapors from properly constructed and maintained vapor monitoring probes or an active LFG control system, pursuant to Section D.1.c of this Monitoring and Reporting Program.
- iii. In the absence of data on concentrations of volatile organic constituents, in a soil vapor monitoring or LFG control system, the ground water MPar shall include all the volatile organic constituents listed in Appendix II to 40 CFR, Part 258.

## 7. Statistical Data Analysis Methodology

- a. **Intra-well Comparisons are Standard** – Except as otherwise provided in *Evaluation Monitoring Specification D.7.a.i.(B & C)*, intra-well comparison methods shall be used at all compliance wells for all MPar that are subject to data analysis under this Order and shall be used to test individual “background” (e.g., upgradient) wells regarding unexpected increases in synthetic constituents (e.g., VOCs) as follows:
  - i. **Pre-Detection Background Data Set** – Initially, except as otherwise provided in *Evaluation Monitoring Specification D.7.a.i(C)(1) and (2) or D.9*, for each given MPar at a given downgradient monitoring well (well/MPar pair), the proposed background data set shall consist of all validated data from that compliance well and parameter, for the period of 1997 through 2005. Every two years, following the adoption of this M&RP, as part of the annual monitoring summary report [see CCR Title 27 §20415(e)(14)], the Discharger shall add the previous two years of data to the background data set for each well/MPar pair after validating (via a method approved by the Regional Board), that the new data does not contain results indicating an increase over the existing background data concentrations. At that time, the Discharger shall also retire the well/MPar’s oldest two years of background data, thereby producing a data set covering the then-previous five years (or 16 data points). The Discharger shall validate the proposed intra-well background data set as follows for each MPar at each well (initially) or, subsequently, at a new well or for a new MPar at an existing well. The Discharger shall report the validated or updated background data set, for each affected well/MPar pair, in the next scheduled monitoring report. Initial background data validation shall be as follows:
    - (A) **Accelerated Background Data Procurement** – if there are less than sixteen post-1997 data points available, for a given MPar at

any compliance well, the Discharger shall implement the accelerated data procurement effort described in *Evaluation Monitoring Specification D.6* to achieve that minimum background sample size (16 data points per well) prior to initiating the intra-well background data set validation procedure described below;

- (B) **Validate Upgradient Data for Synthetic MPar** – for any MPar that is a non-metallic Appendix II constituent (*i.e.*, that is artificially produced or synthetic), the initial intra-well data validation, under *Evaluation Monitoring Specification D.7.a.i(C)*, shall utilize only data from those upgradient (or cross-gradient) compliance wells whose post-1997 data, for that constituent, exceeds the constituent’s method detection limit in less than 10% of the well’s data. Such synthetic constituents should not be detectable at upgradient wells except in error (around 1% of the time) or because the constituent comes either from the Unit or from another source. For any upgradient well rejected pursuant to this paragraph, for a given MPar, where the Discharger has not already explained the constituent’s presence at that well to the satisfaction of the Regional Board, the Discharger shall conduct an investigation under *Evaluation Monitoring Specification D.9*. If there are one or more rejected background wells, the Discharger shall use their data to validate each well/MPar pair’s proposed intra-well background data set, under *Evaluation Monitoring Specification D.7.a.i(C)*; and
  
- (C) **Intra-well Background Validation for New Well/MPar Pairs** – for all compliance wells initially and, subsequently, for new wells or a new MPar at an existing well, to determine whether the existing data for that MPar at the well can be used as its intra-well comparison background data set:
  - (1) **Commonly Quantified Constituents** – When determining the “naturally occurring” or “background” ground water conditions (*i.e.*, pre-landfill conditions) of any MPar that may commonly be detected in ground water at concentrations exceeding the constituent’s PQL. The Discharger shall validate the proposed intra-well data from each compliance well by comparing that well’s data set to a pooled box-and-whiskers plot, for that particular MPar, from all “background” wells (*i.e.*, upgradient or cross-gradient wells) completed in the same ground water aquifer. If any such constituent’s median concentration (for a downgradient well) exceeds the pooled background

plot's 75<sup>th</sup> percentile (the upper boundary of the box in a box-and-whisker's plot), then that compliance well's existing data cannot be used as the intra-well comparison background data set for that well/MPar pair. That well/MPar shall be tested, beginning no later than the next scheduled reporting period, using an inter-well comparison data analysis method [against the applicable background well(s)], meeting the requirements of CCR Title 27 §20415(e)(9). For wells/MPar pairs whose existing data's median is less than the pooled background plot's 75<sup>th</sup> percentile, the existing data shall be used as the initial background data set for intra-well comparisons for that well/MPar pair; or

- (2) **Rarely Quantified Constituents** – When determining the “naturally occurring” or “background” ground water conditions (*i.e.*, pre-landfill conditions) for an MPar that would rarely be detected in ground water (*e.g.*, non-metallic Appendix II constituents), the Discharger shall identify the highest value from the pooled data set from all background wells that have passed validation under *Evaluation Monitoring Specification D.7(b)* or, in a case where all applicable upgradient well data are non-detect, the MDL. The Discharger shall use this value as a basis of comparison to validate the data points in the proposed intra-well background data set. The initial intra-well background data set for that downgradient well shall consist of all data points in the proposed intra-well background data set that are less than this value.
- b. **Performance Standards** – All data analysis methods (statistical or non-statistical) shall meet the applicable requirements of CCR Title 27 §20415(e)(9).
- c. **Retest is Part of the Method** – If an approved data analysis method provides a preliminary indication that a given MPar has displayed a statistically significant increase in concentration at a given well, then the Discharger shall perform a discrete retest, in accordance with CCR Title 27 §20415(e)(8)(E) for verification. The retest is part of the data analysis method; therefore, a measurably significant increase exists only if either or both of the retest samples validate the preliminary indication.
- d. **Limited Retest Scope** – For any given ground water monitoring point, the Discharger shall perform the verification procedure only for those MPars that have shown a measurably significant increase in that well for that reporting period.

- e. **Evaluation Mode Data Analyses** – The following applies to all detection mode data analyses (i.e., this paragraph does not apply to the scans required under *Evaluation Monitoring Program C.10*):
    - i. **MPars Readily Detectable in Background** – At any given monitoring point, the Discharger shall apply an approved statistical analysis for each detection mode MPar that exceeds its respective MDL in **10% or more** of the applicable background data set. For each well/MPar pair (separately), an approved statistical analysis is a method, other than Analysis of Variance (**ANOVA**), that the Regional Board agrees meets the performance standards of CCR Title 27 §20415(e)(9). If using SANITAS<sup>®</sup>, the Discharger shall use the “CA Standards” and “CA Retest” settings (under the “Options” pull-down menu). Otherwise:
      - (a) For any such well/MPar pair that does not have an approved statistical analysis method, the Discharger shall propose and substantiate an appropriate statistical method within **30 days** of the adoption of this Order;
      - (b) For any new MPar that qualifies for statistical analysis by meeting the above 10% rule at a given well, the Discharger shall propose and substantiate an appropriate statistical method for that well/MPar pair as part of the background data validation under *Evaluation Monitoring Specification D.7.a.i.(C)*.
    - ii. **MPars Not Readily Detectable in Background** – For any monitoring point at which one or more MPars exceed their respective MDL in **less than 10%** of the applicable background data set, the Discharger shall analyze the data for these MPars via the California Non-statistical Data Analysis Method (CNSDAM) test described in *Evaluation Monitoring Specification D.8*.
8. **CALIFORNIA NON-STATISTICAL DATA ANALYSIS METHOD (CNSDAM)**
- a. **Non-Statistical Method for Evaluation Mode MPars Seldom Found in Background** – For any given compliance (downgradient) well, the Discharger shall use this data analysis method, jointly, for all constituents on the “scope list” below (or, for each retest sample, the modified scope list of paragraph b.ii. below).
    - i. **Scope List** – Create a current “scope list” showing each detection mode MPar, at that well, that exceeds its MDL in **less than 10%** of its background data (see *Evaluation Monitoring Specification D.7.e.i*).
    - ii. **Two Triggers** – From the scope list developed under paragraph a.i. above, for an initial test [or, for a retest, the modified scope list under

paragraph b., below], identify each MPar in the current sample from that well that exceeds its respective MDL or PQL. These identified MPars provide a preliminary indication [or, for a retest, provide a measurably significant indication], at that well, of a change in the nature or extent of the release if either:

- (A) two or more of the MPars exceed their respective MDL, or
- (B) at least one MPar equals or exceeds its respective PQL.

**b. Discrete Retest:**

- i. In the event that the Discharger concludes (pursuant to paragraph a.ii. above) that there is a tentative indication of a release, then the Discharger shall immediately notify the Regional Board by phone or e-mail and, within **30 days** of such indication, shall collect two new (retest) samples from the indicating compliance well.
- ii. For any given compliance well retest sample the Discharger shall include, in the retest analysis, only the laboratory analytical results for those constituents indicated in that well's original test, under paragraph a.ii. above, and these indicated constituents shall comprise the well's "modified scope list". As soon as the retest data are available, the Discharger shall apply the same test [under paragraph a.ii. above, but using this modified scope list] to separately analyze each of the two suites of retest data at that compliance well.
- iii. If either (or both) of the retest samples trips either (or both) of the triggers under paragraph a.ii above, then the Discharger shall conclude that there is a measurable significant increase at that well for the constituent(s) indicated in the validating retest sample(s). Thereafter, the Discharger shall monitor the indicated constituent(s) in tracking mode (instead of detection mode; see *Evaluation Monitoring Specification D.7.e.ii* above) at that well, shall remove the constituent(s) from the scope list created (under paragraph a.i. above) for that well, and shall highlight this conclusion and these changes in the next scheduled monitoring report.

9. **Frequent Detections of a Synthetic Constituent in a Background Well** – Any time an (upgradient or cross-gradient) compliance well exhibits an excessive frequency or proportion of trace-level or numerical concentration data for any MPar (under *Detection Monitoring Specification D.7 or D.10*) or COC (under *Evaluation Monitoring Specification D.6 or D.7*) that is a non-metallic Appendix II constituent, the Discharger shall conduct an investigation under this paragraph. For such a constituent; an "excessive proportion" constitutes a condition, under *Evaluation Monitoring Specification D.7.a.i.(A)*, where 10% or more of the data from that background well

exceeds the MPar's MDL; and an "excessive frequency" constitutes a condition, under *Evaluation Monitoring Specification D.10*, in which new data at the background well exceeds the constituent's MDL for two successive samples. Given either condition, the Discharger shall notify the Regional Board immediately by phone or e-mail and shall, within **180 days** thereafter, submit a technical report, to the Regional Board, that evaluates the possibility that the constituent(s) originated from the Unit (*e.g.*, using a concentration gradient analysis) and proposing appropriate changes to this monitoring program. If the:

- a. Evidence indicates the synthetic constituent originated from a source other than the Unit, then the Regional Board may choose to make appropriate changes to the monitoring program; or
  - b. Evidence is inconclusive that the detected synthetic constituent came from a source other than the WMU, then the Discharger shall:
    - i. list the constituent as an MPar, if it is not already listed, in the next scheduled monitoring report and shall indicate this change prominently in the report's summary;
    - ii. include this background well as part of the release for that MPar, and thereafter, shall address this well/MPar pair in tracking mode (*i.e.*, as part of the release), in spite of the well being a "background" (*i.e.*, upgradient or cross-gradient) well, beginning with the next scheduled monitoring report; and
    - iii. if there is not at least one other "background" (*i.e.*, upgradient or cross-gradient) well unaffected by this constituent, shall, within **90 days**, install a new upgradient or cross-gradient "background" well in a portion of the aquifer that will provide data representative of background conditions for the WMU's compliance wells.
10. **Ongoing Background Well Testing** – Even though most data analysis will be via intra-well comparisons, the Discharger shall continue to monitor "background" (*i.e.*, upgradient or cross-gradient) wells, for each MPar and COC, each time that MPar or COC is monitored at downgradient wells. Each year that there is new "background" well data for a constituent (*i.e.*, annually for MPar and every five years for non-MPar COCs), the Discharger shall include the new data in the annual monitoring summary report [see CCR Title 27 §20415(e)(14)] as a time-versus-concentration plot for that "background" well and constituent. Any time such a plot (for a give well and constituent) shows two successive data points in excess of the MDL for any non-metallic Appendix II constituent that has not already been investigated at that well, under *Evaluation Monitoring Specification D.9*, the Discharger shall notify the Regional Board immediately by phone or e-mail and shall initiate an investigation under *Evaluation Monitoring Specification D.9* within **30 days** of noting this condition.

## **E. RESPONSE TO A RELEASE**

1. If the Discharger determines that there is significant statistical evidence of a release (*i.e.*, the initial statistical comparison or non-statistical comparison indicates, for any Constituent of Concern (COC) or monitoring parameter (MPar), that a release is tentatively identified, the Discharger shall ***immediately*** notify the Regional Board, verbally, as to the monitoring point(s) involved, shall provide written notification by certified mail within ***seven days*** of such determination, and shall carry out a discrete retest [see *Sections D.7* (statistical method) or *D.8* (non-statistical method) of the M&RP].

If the retest confirms the existence of a release, the Discharger shall carry out the requirements described in *Section E.3* below.

2. If the Discharger determines that there is significant physical evidence of a release, the Discharger shall notify the Regional Board by telephone ***within 24-hours*** and by certified mail within ***seven days***. The Discharger shall carry out the requirements of *Section E.3* for all potentially affected monitored media.
3. If the Discharger concludes that a release has been discovered:
  - a. If this conclusion is not based upon direct monitoring of the Constituents of Concern (COC), then the Discharger shall, within ***30 days***, sample for all COCs at all monitoring points in the affected medium for the waste management unit, and submit them for laboratory analysis. Within ***seven days*** of receiving the laboratory analytical results, the Discharger shall notify the Regional Board, by certified mail, of the concentration of all COCs at each monitoring point in the affected medium. Because this scan is not to be statistically tested against background, only a single datum is required for each COC at each monitoring point.
  - b. The Discharger shall, within ***90 days*** of discovering the release, submit a revised Report of Waste Discharge/Joint Technical Document (JTD) proposing an Evaluation Monitoring Program meeting the requirements of CCR Title 27 §§20420(k)(5) and 20425, and satisfies the requirements of 40 CFR §258.55.
  - c. The Discharger shall, within ***180 days*** of discovering the release, submit to the Regional Board a preliminary engineering feasibility study meeting the requirements of CCR Title 27 §20420(k)(6).
  - d. Within ***14 days*** of completing an individual step in this section (*E.3.a*, *3.b*, or *3.c*), the Discharger shall amend the Facility's Operating Record with any results from their evaluation, testing, re-testing, or any technical reports submitted to the Regional Board. Within ***seven days*** of making an amendment to the Facility's Operating Record pursuant to this section, the Discharger shall

also provide written notification to the Regional Board indicating that they have amended the Operating Record.

4. In the event the Discharger concludes a release has been tentatively indicated (under the statistical or non-statistical method), the Discharger shall, within **30 days**, collect additional sample(s) for the indicated COCs or monitoring parameter(s) at each affected monitoring point, collecting at least as many samples per suite as were used for the initial test. Re-sampling of the background monitoring points is optional. Samples shall be analyzed using the same analytical methods that produced the original data indicating the tentative evidence of a release. Sample data shall be analyzed using the same statistical procedure or non-statistical procedure that provided the tentative evidence of a release.

As soon as the data are available, the Discharger shall rerun the statistical or non-statistical method separately upon each suite of retest data. For any indicated monitoring parameter or COC at an affected monitoring point, if the test results of either (or both) of the retest data suites confirm the original indication, the Discharger shall conclude that a release has been discovered.

All retests shall be carried out only at the monitoring point(s) for which a release is tentatively indicated, and only for the COC or monitoring parameters, which triggered the indication there, as follows:

- a. If an ANOVA method was used for the original data, the retest shall involve only a repeat of the multiple comparison procedure, carried out separately on each of the two new suites of samples collected from the indicating monitoring point.
- b. If the Method of Proportions was used for the original data, the retest shall consist of a full repeat of the statistical test for the indicated constituent or parameter, performed separately on each of the new sample suites from the indicating monitoring point.
- c. If the non-statistical method was used for the original data:
  - i. Because all COCs jointly addressed in the non-statistical testing remain as individual COCs, the scope of the laboratory analysis for the non-statistical retest samples shall be narrowed to involve only those constituents detected in the sample that initiated the retest.

**F. RESPONSE TO DETECTION OF VOCs IN BACKGROUND (or any other constituent which is expected to be “zero” in background and not amendable to statistical analysis)**

1. Except as provided in F.3 below, any time the laboratory analysis of a sample from a background monitoring point or detection monitoring point, sampled for VOCs shows either:
  - a. Two or more VOCs at or above their respective MDL, or
  - b. One VOC at or above its respective PQL, then the Discharger shall:
    - i. Notify the Regional Board by telephone and facsimile.
    - ii. Follow up with written notification by certified mail within seven days.
    - iii. Obtain two new independent VOC samples from that background monitoring point.
    - iv. Send the samples for laboratory analysis of all detectable VOCs within 30 days.
2. If either or both of the new samples validates the presence of VOC(s), using the above procedure, the Discharger shall:
  - a. Notify the Regional Board by telephone and facsimile.
  - b. Follow up with written notification by certified mail within seven days.
  - c. Within **180 days** of validation, submit a report that evaluates the possibility that the detected VOC(s) originated from the waste management unit and proposing appropriate changes to the monitoring program.
3. If the Regional Board determines that the VOC(s) detected originated from a source other than the waste management unit, the Regional Board may choose to make appropriate changes to the monitoring program.
4. In the absence of any other determination by the Regional Board within 90-days of the Discharger's initial report under Section F.1 above, the Discharger shall assume that a release has been detected and shall immediately begin carrying out the applicable general requirements for Response to a Release (per *Sections E1 to E.4 of this Monitoring Program*).
5. If the Regional Board is unable to conclude that the evidence indicates the detected synthetic constituent came from a source other than the WMU, or it has been 90-days since the Discharger's initial report to the Regional Board under Section F.1 above, then the Discharger shall:
  - a. List this constituent as an MPar, if it is not already so listed, in the next scheduled monitoring report and shall note this change prominently in the report's summary;
  - b. Include this background well as part of the release, for the MPar and, thereafter, shall address this well/MPar pair in tracking mode (*i.e.*, as part of the release), in

spite of the well's being a background well, beginning with the next scheduled monitoring report; and

Within **90 days**, install a new upgradient or cross-gradient background well in a portion of the aquifer that will provide data representative of background conditions for the WMU's compliance wells (if there is not at least one other background well unaffected by this constituent).

#### **G. RELEASE BEYOND FACILITY BOUNDARY**

1. Any time the Discharger concludes that a release from the waste management unit has proceeded beyond the facility boundary, the Discharger shall notify all persons who either own or reside upon the land that directly overlies any part of the plume (affected persons).
2. Initial notification to affected persons shall be accomplished within **14 days** of making this conclusion and shall include a description of the Discharger's current knowledge of the nature and extent of the release.
3. The Discharger shall provide updates to all affected persons, including any persons newly affected by a change in the boundary of the release, within **14 days** of concluding there has been any material change in the nature or extent of the release.
4. Each time the Discharger sends a notification to affected persons, the Discharger shall provide the Regional Board within **seven days** of sending such notification, with copies of the notification and a current mailing list of affected persons.
5. Each time the Discharger sends a notification to affected persons or the Regional Board, within **14 days** of sending the notification the Discharger shall amend the Facility's Operating Record to include that notification and any attachments thereto. Within **seven days** of making an amendment to the Facility's Operating Record pursuant to this section, the Discharger shall also provide written notification to the Regional Board indicating that they have amended the Operating Record for the Facility.

#### **H. REPORTS TO BE FILED WITH THE REGIONAL BOARD**

Pursuant to existing State requirements (see § 3890 *et seq.*, Title 23, CCR), all reports shall be submitted electronically (after July 1, 2005) no later than one month following the end of their respective Reporting Period. The reports shall be comprised of at least the following, in addition to the specific contents listed for each respective document and report type:

1. **Transmittal Letter**

A letter summarizing the essential points shall be submitted with each report. The transmittal letter shall include:

- a. A discussion of any violations found since the last such report was submitted and shall describe actions taken or planned for correcting those violations. If the Discharger has previously submitted a detailed time schedule for correcting said requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter; and
- b. A statement certifying that, under penalty of perjury, to the best of the signer's knowledge the report is true, complete, and correct. This statement shall be signed by an individual meeting the requirements contained in **Reporting Requirement E.13** of Order R9-2005-0183.

2. **Semi-Annual Report**

The semi-annual report shall contain, but not be limited to, a compliance evaluation summary of the ground water data obtained. The summary shall include the following information:

- a. Monitoring Parameters;
- b. Detection limit of monitoring equipment;
- c. Measured concentrations of MPars determined from samples collected during the current sampling event;
- d. A map (or copy of an aerial photograph) which indicates the locations of observation stations, Monitoring Points, and Compliance Wells, and ground water flow rate/direction and graphical presentation (*e.g.*, arrow on a map);
- e. Monitoring well information, method and time of ground water level measurement, and a description of the method of purging used both before and after sampling;
- f. Sampling information, type of pump used and its vertical placement, detailed description of sampling procedure, QA/QC;
- g. Vadose zone (soil vapor probes) and/or landfill gas (LFG) monitoring information, method and time of sampling, and a description of the sample collection protocols and analytical method(s) used;
- h. Site inspection reports; and
- i. Inspection results for temporary soil stockpiles.

3. **Annual Summary Report**

The annual summary report, covering the previous monitoring year, shall contain the following information:

- a. For each compliance-monitoring well, the Discharger shall submit a graphical display [per CCR Title 27 §20415(e)(14)] for all data collected within at least the previous five calendar years. Each graph shall plot the concentration of one or more constituents over time for a given monitoring point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. On the basis of any aberrations noted in the plotted data, the Regional Board may direct the Discharger to carry out a preliminary investigation, the results of which will determine whether or not a release is indicated. Trend analyses shall include analysis of trends that have been identified over the last monitoring year, and analysis of any newly identified trends, significant changes in a known trend, or trend reversals identified in the historical data collected over the last **5 years** for groundwater, surface water (including seeps and springs), and vadose zone monitoring points (subdrains, lysimeters, soil vapor probes, and/or LFG control system);
- b. All monitoring analytical data obtained during the previous two semiannual reporting periods, presented in tabular form in the technical report. Complete copies of the analytical data and technical reports shall also be reported electronically in compliance with § 3890 *et seq.*, Title 23, CCR. These data shall also include the background data used as a reference in detecting the measurably significant increase.
- c. A comprehensive discussion of the compliance record, and of any corrective actions taken or planned, which may be needed to bring the Discharger into full compliance with this Order.
- d. A written summary of the monitoring results and monitoring system(s), indicating any changes made or observed since the previous annual report.
- e. A topographic map at appropriate scale, showing the direction(s) of ground water flow observed at the WMU during the previous year.
- f. A written summary of monitoring results and monitoring system(s) indicating any changes made or observed since the previous report.
- g. An evaluation of the effectiveness of vadose zone (soil vapor monitoring probes/network) and/or landfill gas (LFG) control/monitoring systems. This evaluation may be submitted under separate cover.
- h. A copy of the Storm Water Pollution Prevention Plan, or as amended, under a separate cover.

4. **Constituents of Concern Report (every 5 years)**

The Discharger shall monitor all constituents of concern (COCs) and submit a COC Report as follows:

- a. The Discharger shall sample all compliance wells for each monitored medium for all COCs every fifth year. The next COC report is due in Spring 2007, subsequent COC reports will be carried out every fifth year thereafter alternately in the Fall (Reporting Period ends September 30) and Spring (Reporting Period ends March 31). The COC report may be combined with any Monitoring Report or any Annual Summary Report having a reporting period that ends at the same time. The COC Report shall meet the minimum monitoring report requirements as described in *C.10* above.
- b. The Discharger shall monitor for all COCs in accordance with this Section, provided that such monitoring need only encompass those COCs that do not also serve as monitoring parameters.

5. **Construction Quality Assurance (CQA) Reports**

The Discharger shall provide the Regional Board with a complete Construction Quality Assurance Report that contains all the final report elements and the results from laboratory and field testing referenced in CCR Title 27, §20320 and §20324 *et seq.*

- a. The Discharger shall ensure that the preparation of the final CQA Report, and supervision of the CQA program, be performed by persons having the qualifications required by CCR Title 27, §20324(b).
- b. The Discharger shall provide the Regional Board with properly certified amendments to the CQA Report covering any subsequent phase(s) of construction necessary to maintain the integrity and performance of the Unit's foundation, engineered cover system, waste containment structures, and the structures which control leachate, surface drainage, erosion or gas.

6. **Use of Registered Professionals**

The Discharger shall provide documentation that plans and reports required under this Order are prepared under the direction of appropriately qualified professionals. California Business and Professions Code § 6735, § 7835, and § 7835.1 require that engineering and geologic evaluations and judgments be performed by or under the direction of registered professionals. A statement of qualifications and registration numbers of the responsible lead professionals shall be included in all plans and reports submitted by the Discharger. The lead professional shall sign and affix their registration stamp to the report, plan, or document.

**I. REPORTING**

Complete paper copies of all technical and monitoring reports shall be submitted to the Regional Board and electronically in compliance with §3890 *et seq.*, Title 23, CCR, and according to the following schedule:

<b>Report Type</b>	<b>Report Frequency</b>	<b>Report Period</b>	<b>Report Due</b>
Ground Water, Maintenance & CAP Progress Report	Semiannual	April - September	October 31
Ground Water, Maintenance & CAP Progress Report	Semiannual	October – March	April 30
Storm Water Pollution Prevention Plan (or update thereof)	Annual	July – June	July 30
Ground Water, Maintenance & CAP Progress Report	Annual	April – March	April 30
COC Report <sup>1</sup>	First Five Years	October 2001 – March 2007	April 30, 2007
COC Report <sup>1</sup>	Second Five Years	April 2007 – September 2012	October 31, 2012
Final Construction Quality Assurance Report	One-Time (Discharger to update with technical addenda as necessary)	N/A	Within 90 days of completing construction of the Cap.
Amendments to Construction Quality Assurance Report	Discharger to update CQA Report with technical addenda as necessary	N/A	Within 90 days of completing construction for maintenance for landfill waste containment and/or monitoring systems.
Well installation Workplan	One-Time	N/A	Within 120 days of adoption of this Order and M&RP.

<sup>1</sup> COC Reports are due at alternating intervals to account for potential seasonal variations in these data (*i.e.*, every other report is due in April of the reporting year).

Complete paper copies of all monitoring and technical reports shall be submitted to:

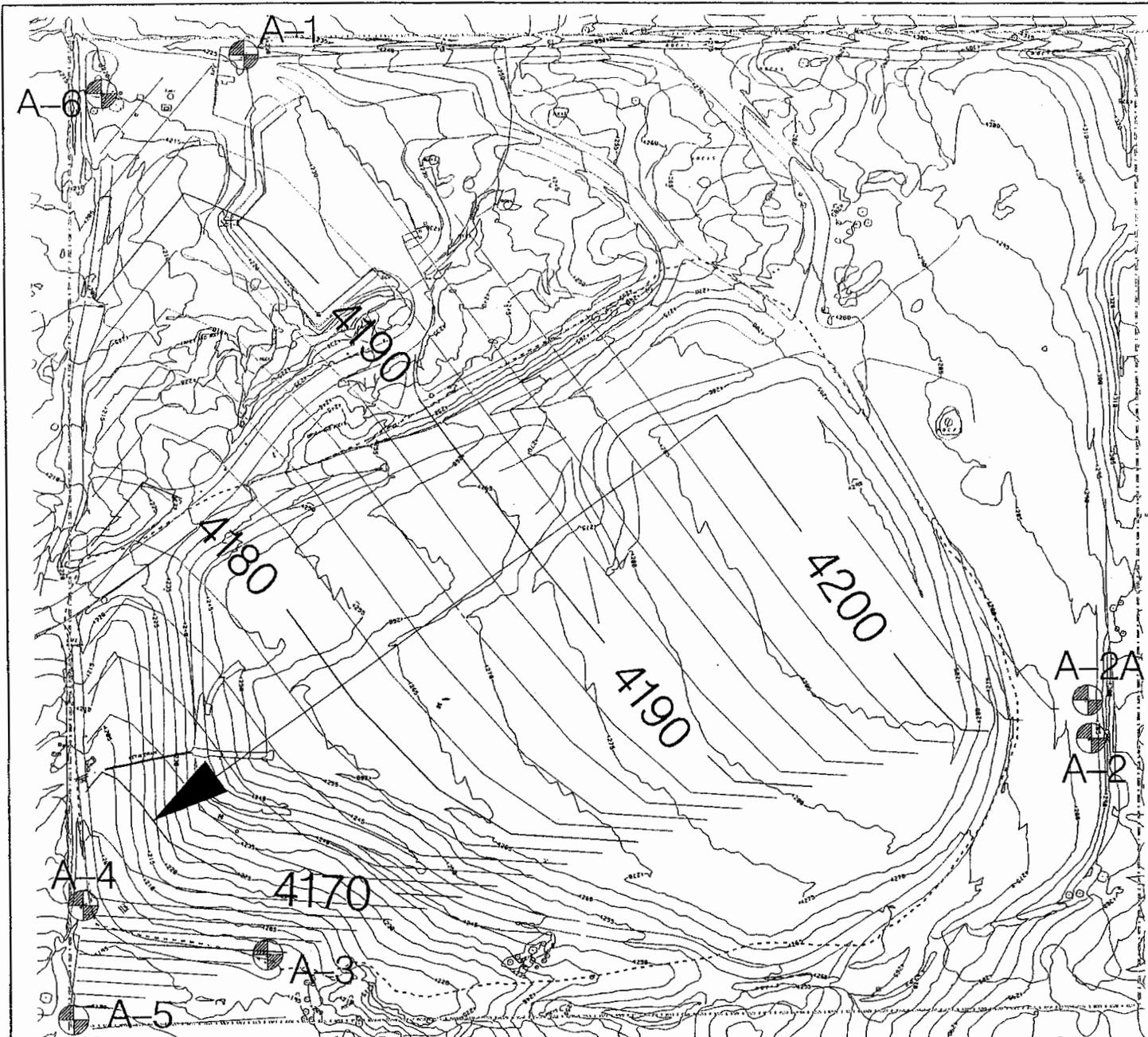
California Regional Water Quality Control Board  
San Diego Region  
9174 Sky Park Court, Suite 100  
San Diego, CA 92123  
Attention: Land Discharge Unit Supervisor

Ordered By:



JOHN H. ROBERTUS  
Executive Officer

Date Adopted: December 14, 2005

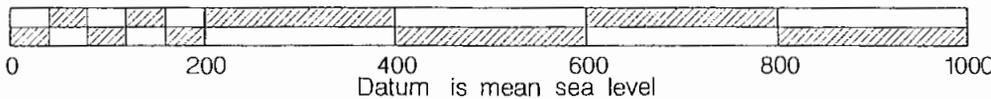


**LEGEND**

- Groundwater Monitoring Well
- Landfill Footprint
- Property Line
- Groundwater Contours
- Groundwater Flow Direction

Well I.D	Coordinate		Wellhead Elevation	Ground Elevation	Groundwater Elevation
	Northing	Easting			
A - 1 (S)	2139765.205	6446906.933	4226.724	4226.37	4192.77
A - 2 (S)	2138856.476	6447612.797	4283.946	4281.42	Dry
A - 2A (S)	2138906.858	6447608.633	4285.091	4262.51	4205.65
A - 3 (S)	2138572.818	6446528.190	4200.993	4196.15	Dry
A - 4 (S)	2138637.702	6446268.921	4199.685	4197.21	4165.44
A - 5 (S)	2138486.269	6446275.750	4190.390	4187.61	4147.95
A - 6 (S)	2139713.943	6446322.451	4222.790	4219.46	4198.50

Scale: 1" = 200'



**Riverside County**  
**Waste Management Department**

Anza Sanitary Landfill  
 Groundwater Monitoring Well Locations  
 and Groundwater Contour Map

Date: March 30, 2005

Groundwater Elevations: February 2005

Photo Date: March 2002

Scale: 1" = 200'

Attachment No. 1

**Anza Landfill  
Constituents of Concern (COC) List**

<b>Volatile Organic Compounds (VOCs)</b>	<b>Semi-Volatile Organic Compounds (SVOCs)</b>	<b>General Chemistry</b>
1,1,1-Trichloroethane	Bis(2-ethylhexyl) Phthalate	Total Alkalinity
1,1-Dichloroethane	<b>Metals</b>	Ammonium Nitrogen (NH <sub>4</sub> -N)
1,2-Dichlorobenzene	Aluminum (Al)	Total Anions
1,2-Dichloroethane	Antimony (Sb)	Bicarbonate (HCO <sub>3</sub> )
1,3-Dichlorobenzene	Barium (Ba)	Carbonate (CO <sub>3</sub> )
1,4-Dichlorobenzene	Beryllium (Be)	Total Cations
2-Chlorotoluene	Boron (B)	Chemical Oxygen Demand (COD)
Acetone	Cadmium (Cd)	Chloride (Cl)
Benzene	Calcium (Ca)	Cyanide (CN)
Bromobenzene	Chromium, total (Cr)	Dissolved Oxygen
Chlorobenzene	Cobalt (Co)	Fluoride (F)
Chloroethane	Copper (Cu)	Total Hardness
Chloroform	Iron (Fe)	Kjeldahl Nitrogen
Chloromethane	Lead (Pb)	Organic Nitrogen
cis-1,2-Dichloroethene	Magnesium (Mg)	Nitrate (NO <sub>3</sub> -N)
Dichlorodifluoromethane	Manganese (Mn)	Lab pH
Diethyl Ether	Mercury (Hg)	Phosphate (PO <sub>4</sub> )
Ether	Molybdenum (Mo)	Total Phosphorus (P)
Methylene Chloride	Nickel (Ni)	Specific Conductance
n-Propylbenzene	Potassium (K)	Sulfate (SO <sub>4</sub> )
p-Xylene	Selenium (Se)	Total Sulfide
Tetrachloroethene	Silicon (Si)	Total Dissolved Solids
Tetrahydrofuran	Sodium (Na)	Total Organic Carbon (TOC)
Toluene	Strontium (Sr)	Total Organic Halogens (TOX)
trans-1,2-Dichloroethene	Thallium (Tl)	<b>Diesel</b>
Trichloroethene	Tin (Sn)	Hydrocarbons
Trichlorofluoromethane	Titanium (Ti)	
Vinyl Chloride	Vanadium (V)	
	Zinc (Zn)	

## **APPENDIX A: DEFINITION OF TERMS AND ACCRONYMS**

### **MONITORING AND REPORTING PROGRAM NO. R9-2005-0183**

Note: for terms-of-art that are not listed below, please see the definitions at 27CCR §20164.

“**27CCR**” means the State Water Resources Control Board’s regulations, in Division 2 of Title 27 of the California Code of Regulations, applicable to the discharge to land of waste that is not hazardous waste. An unofficial copy of these regulations is available for downloading at <http://www.swrcb.ca.gov/cwphome/chap15/docs.htm>

“**40CFR258**” means the regulations under Part 258 of Title 40 of the Federal Code of Regulations that apply to MSW landfills.

“**ACM**” means the federal Assessment of Corrective Measures process, under 40CFR §258.56, which applies to any MSW landfill that has exhibited a measurably significant release over the applicable Water Standard at any well along the point of compliance for any Appendix II constituent. In California, this process is one in which the discharger determines the nature and extent of the release, implements interim corrective action measures, and develops a broad suite of possible measures, including a subset thereof which the discharger will propose for RWQCB adoption under the Selection Of Remedy (SOR) process. Generally speaking, the federal ACM and SOR processes serve the same function, under the federal approach, as the Evaluation Monitoring Program does under the State approach.

“**Affected parties**” means all people who own, or reside upon, land outside the facility boundary that is underlain by any portion of the release from the landfill. Under 40CFR §258.55(g)(1)(iii), the discharger must keep an up-to-date list of all such people and must assure that they are invited to the discussion of proposed corrective action measures, pursuant to 40CFR §258.56(d).

“**AMP**” means a federal Assessment Monitoring Program, under 40CFR §258.55, which applies to any MSW landfill that, under 40CFR §258.54(c), has exhibited a measurably significant increase over the background value for any Monitoring Parameter. In California, given that an MSW landfill will have established background as the Concentration Limit for each Monitoring Parameter, the exceedance of the background value for a monitored constituent at any monitoring point also constitutes a violation of the Water Standard, thereby — in most instances — triggering the federal Assessment of Corrective Measures (ACM) and Selection Of Remedy (SOR) studies. The term also describes the federal program that: **1)** is ongoing during the ACM and SOR studies and under the CAP; and **2)** constitutes the federal monitoring program that continues after successful completion of the Corrective Action Program.

“**Appendix I**” (to 40CFR Part 258) means the suite of 47 volatile organic constituents and 17 metals used as the default monitoring parameter list under the federal MSW landfill regulations (40CFR §258.1 through §258.75). The listed constituents are a subset of those listed in Appendix II and are subject to monitoring and data analysis every six months. The RWQCB can adopt surrogates for the 17 metals, and can eliminate from the entire suite any constituent that it finds could not be released from the landfill or derived from such a release.

“**Appendix II**” (to 40CFR Part 258) means the suite of 213 hazardous constituents used as the default constituent of concern list under the federal MSW landfill regulations (40CFR §258.1

through §258.75). The listed constituents are subject to periodic scans, at selected compliance and background wells, either annually or, as adopted for this landfill, every five years. Constituents detected (trace level or higher) and verified in a retest sample become Monitoring Parameters. The RWQCB can eliminate from the entire suite any constituent that it finds could not be released from the landfill or derived from such a release.

**“Background,”** when applied to a reference data set used in testing for a measurably significant indication of a release for a given well/MPar pair, means a suite of data which comes as close as possible to representing the data one would get, for that MPar at that well, if there were no release from the landfill.

**“Background well”** means a monitoring well whose purpose is to provide an indication, for each monitoring parameter (MPar) and monitored ground water body, of the mean (or median) and variability one would expect in the MPar’s concentration in that ground water body in the absence of a release from the landfill. Such wells can be upgradient, side-gradient, or (in rare instances) far-downgradient of the landfill. Due to the nearly ubiquitous presence of geographic variation, intra-well comparisons have a greater statistical power than inter-well comparisons. Therefore, the purpose of this type of well is three-fold: 1) to validate that a compliance well’s historical data, for a given MPar, can be used as the background data set for that well/MPar pair, because the compliance well’s historical data does not appear to reflect the presence of a release; 2) to identify the need to adjust the monitoring approach because of the arrival of waters affected by a release of that MPar from a source other than the landfill; and 3) to identify a condition in which an MPar is released from the landfill and migrates to this well in the unsaturated zone (e.g., volatile organic constituents carried by an expanding LFG release in the unsaturated zone).

**“California Nonstatistical Data Analysis Method (CNSDAM)”** means the test described in the M&RP for this landfill, for use jointly on all those MPar, at a given compliance well, whose applicable background data set exhibits trace level or higher concentrations in less than 10% of the data.

**“CAO”** means a Cleanup and Abatement Order. [See also TSO.]

**“CAP”** means a Corrective Action Program that implements the SWRCB’s requirements under 27CCR §20430 and under SWRCB Policy No. 93-62 which, regarding an MSW landfill, requires the RWQCB to apply any federal requirements, under 40CFR §258.58 (federal Corrective Action Program), that are additional to, or are broader in scope than, the 27CCR requirements.

**“CLGB”** — see “concentration limit”

**“Corrective action measure (CAM)”** means an active or passive process (or installation) that the discharger implements or constructs to constrain a release, to eliminate its effects, or to prevent or minimize the release of additional waste from the landfill. The scope of the term includes **“interim CAM,”** which is applied before the adoption of the Corrective Action Program, and includes **“active CAM,”** which involves the induced movement of polluted water within the impacted aquifer (e.g., a pump-and-treat operation).

**“Compliance well”** means any monitoring well named in the M&RP as a ground water monitoring point to be used in detecting, or tracking, the release. The term does not include

assessment wells that are used [under 27CCR §220425(b) and 40CFR §258.55(g)] to delineate the nature and extent of the release, unless the RWQCB specifically names such a well as a ground water monitoring point in the M&RP.

“**Concentration limit**” is a part of the landfill’s Water Standard and means the reference background data set, or reference concentration value, for a given constituent against which one compares current compliance well data to identify, in detection mode, the arrival of the release at a given well and to identify, in tracking mode, if the corrective action measures are bringing the landfill back into compliance with the Water Standard [for that monitoring parameter (MPar), in the portion of the aquifer sampled by that compliance well]. For compliance wells within the area affected by the release, this limit can be single number, adopted by the RWQCB as a concentration limit greater than background (**CLGB**) under 27CCR §20400(a)(3) through (h) and 40CFR §258.55(i) for a given MPar involved in the release. Otherwise, this limit will be either the applicable background data set, for MPars that are readily detectable, or will be the method detection limit, for a constituent that exhibits trace level or higher values in less than 10% of the background data (i.e., an MPar that is subject to the California Nonstatistical Data Analysis Method at that compliance well).

“**Constituent of concern (COC)**” is a part of the landfill’s Water Standard and means the list of constituents that could be released from the landfill, including the foreseeable breakdown products of all such constituents. For the ground water medium at an MSW landfill, this list must include all Appendix II constituents except for those that the discharger can show are not being mobilized in the landfill’s leachate or, for VOCs only, in its produced gases (LFG). A constituent on this list becomes a monitoring parameter only after being detected (at trace level or above) and then verified by a well-specific retest in a periodic scan of compliance wells affected by the release.

“**Detect,**” when applied to a scan of leachate or ground water, means that the constituent for which the scan is conducted shows up at trace level or higher. For constituents of concern and monitoring parameters that are rarely detected in background, the term means analyses done using a laboratory analytical method that complies with 27CCR §20415(e)(7).

“**Discrete retest**” means a particular means of validating a preliminary indication of a release, for a given compliance well and monitoring parameter (well/MPar) pair, whereby the discharger applies an approved data analysis method to two new samples for that well/MPar pair. The retest validates the preliminary indication if either or both of the retest samples triggers a measurably significant increase indication. The scope of the retest, at any given compliance well, is limited to only those MPars that gave a preliminary indication at that monitoring point.

“**Detection mode,**” for a given compliance well and monitoring parameter (well/MPar) pair, means a state in which one tests for a measurably significant increase, for that monitoring parameter at that well, using an appropriate statistical or nonstatistical data analysis method. Once that well/MPar pair exhibits a measurably significant increase (including an initial indication verified by a discrete retest), it is monitored, thereafter, in “tracking mode” until the inception of the proof period, following successful completion of corrective action.

“**DMP**” means a Detection Monitoring Program that implements the SWRCB’s requirements, under 27CCR §20420 and under SWRCB Policy No. 93-62, which policy requires the RWQCB

to apply any federal MSW landfill requirements, under 40CFR §258.54, that are additional to, or are broader in scope than, the 27CCR requirements.

“**EMP**” means an Evaluation Monitoring Program that implements the requirements under 27CCR §20425 and under SWRCB Policy No. 93-62, which policy requires the RWQCB to apply any applicable federal MSW landfill requirements, under 40CFR §258.55 through §258.57, that are additional to, or are broader in scope than, the 27CCR requirements. This state program constitutes a stepping stone to a Corrective Action Program, in response to the landfill’s having exhibited a measurably significant increase of a release or to its having exhibited physical evidence of a release [see 27CCR §20385(a)(2 and 3)].

“**Existing Footprint**” (as capitalized) means the area of land, at an MSW landfill, that is covered by waste as of the date that landfill became subject to the federal regulations of 40CFR Part 258, pursuant to §258.1 of that part.

“**Geographic variation**” means the random change in the mean, or median, concentration of a given MPar between different locations in a given ground water body, in the absence of a release.

“**Inter-well comparison**” means a type of statistical or nonstatistical data analysis, applied to a given detection mode compliance well and monitoring parameter (well/MPar) pair, in which one compares current concentration data, for that MPar and well, with a suite of background data from the appropriate upgradient well(s) to determine if that MPar has produced a measurably significant increase at that well. Generally speaking, the use of upgradient background data tends to produce higher false-positive and false-negative rates than the intra-well comparison approach, but is appropriate in those cases where it is not feasible to validate that a compliance well’s own historical data reflects water quality in the absence of a release.

“**Intra-well comparison**” means a type of statistical or nonstatistical data analysis, applied to a given detection mode compliance well and monitoring parameter (well/MPar) pair, in which one compares current concentration data, for that MPar, with a suite of background data consisting of selected historical data from that same well to determine if that MPar has produced a measurably significant increase at that well. Typically, the use of a compliance well’s own historical data, for an MPar, provides better statistical power (to identify a real release and to avoid producing false-positive indications) than does the inter-well comparison approach, but only in a case where it is reasonable to assume that the compliance well’s own historical data does not reflect the presence of a release for that MPar.

“**LCRS**” means a functioning leachate collection and removal system (i.e., one that produces leachate).

“**LFG**” means landfill gas, including any volatile organic constituents.

“**M&RP**” means the Monitoring and Reporting Program that is an attachment to the WDRs (or other order) and that is incorporated by reference by the WDRs.

“**Method detection limit (MDL)**” means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte’s concentration is greater than zero, as defined in 40CFR §136, Appendix B.

**“Measurably significant increase”** means a condition in which an appropriate data analysis method shows an initial indication of a release, for a given detection mode compliance well and monitoring parameter (well/MPar) pair, that is verified by a discrete retest (for that well and MPar).

**“Monitoring parameter (MPar)”** is a part of the landfill’s Water Standard and means a list consisting of those constituents of concern (COCs) that are present at a detectable level (trace level or above) in ground or surface water affected by the release. This is the subset of the COCs that is subject to testing for a measurably significant increase, in detection mode, at all compliance wells. For ground water, at a landfill with a functioning leachate collection and removal system (LCRS), this suite includes all Appendix II constituents that have been detected (at trace level or above) and verified in leachate and, subsequently, have been detected (at trace level or above) and verified in a COC-scan of ground water at compliance wells affected by the release. For ground water, at a landfill without a functioning LCRS, this suite includes all Appendix II constituents that have been detected (at trace level or above) and verified in a COC-scan of ground water at any compliance well affected by the release.

**“Monitoring point,”** for any given monitored medium (surface water, ground water, or the unsaturated zone), means a location, including any installed access device (e.g., well or lysimeter), that is named in the M&RP as a place where the discharger monitors that medium: 1) to detect the arrival of the release front for each monitoring parameter (MPar) that is in detection mode at that location; 2) to detect changes in the concentration of each MPar that is in tracking mode at that location; and 3) in a case where the location that is in tracking mode for most MPars that are involved in the release, to detect the presence, at trace level or above, of any constituents of concern (COCs) that have not previously been detected in that medium (COCs newly detected and verified in that medium become MPars for that medium).

**“MSW landfill”** means any landfill that is subject to any portion of the federal regulations under 40CFR258 by virtue of having received municipal solid waste (household waste) at any time and having received any waste after October 9, 1991.

**“Operating record”** means the organized compendium of information about the landfill and facility that the discharger maintains and makes available to the public at a site approved by the RWQCB and/or the Enforcement Agency and that contains a copy of each document submitted to, or received from, any State or local regulatory agency for purposes of obtaining or updating either the Facility Permit or the WDRs, demonstrating compliance with the California Environmental Quality Act, or complying (or demonstrating compliance) with any applicable requirement under 40CFR258.

**“Point of compliance (POC)”** is, for the ground water medium, a part of the landfill’s Water Standard and means a conceptual vertical surface that is located, in map view, along the hydraulically downgradient limit of waste placement at the landfill and that extends downward through the uppermost aquifer underlying the Unit. The federal MSW regulations require one or more ground water monitoring points along this vertical surface to monitor the quality of ground water passing it (see 40CFR §258.51), whereas the RWQCB will name other ground water monitoring points (not along this vertical surface) as needed to provide the earliest possible detection and measurement of a release [see 27CCR §20415(b)(1)].

“**Practical quantitation limit (PQL)**” means the value established as a target value by USEPA that is the lowest concentration of a substance that can be consistently determined within +/- 20% of the true concentration by 75% of the laboratories tested in a performance evaluation study. Alternatively, if performance data are not available, the PQL for carcinogens is the method detection limit (MDL) multiplied by 5, and for noncarcinogens is the MDL x 10. These estimated PQLs are listed in Appendix II to 40CFR258. Generally, these are target values that may not reflect the constraints of matrix effects; therefore, the RWQCB requires the discharger to keep an up-to-date listing of the applicable laboratory-specific PQL and MDL estimates for each analyte on the constituent of concern list.

“**Release**” means the three-dimensional portion of the monitored medium (ground water, surface water, or the unsaturated zone) comprised of all locations therein that are affected by one or more monitoring parameters that have migrated from the landfill to such an extent that a properly constructed monitoring point, at that location, would trigger a measurably significant increase over the applicable concentration limit, using an appropriate data analysis method meeting the requirements of 27CCR §20415(e)(9) and a background data set sample size of 16 or more data points.

“**Retest**,” when applied to a scan to detect the presence of an appropriate list of analytes in leachate, landfill gas, or ground water (at an affected monitoring point), means taking a single additional sample from the indicating medium (or, for ground water, the indicating monitoring point) to determine whether the initial detection, for that analyte, is valid. When applied to the six-monthly monitoring effort for a given compliance well and monitoring parameter pair in detection mode, see “discrete retest.”

“**RWQCB**” or “**Regional Board**” means the appropriate California Regional Water Quality Control Board.

“**Sample size**,” for a given compliance well and monitoring parameter (well/MPar) pair in detection mode, means the number of data points used to represent the variability of the background population or to represent the present compliance status of the MPar at that well, when applying an appropriate data analysis method.

“**Scan**” means a determination as to whether any of a given list of constituents are detectable (at the trace level or above) in the monitored medium (typically leachate, ground water, or landfill gas). The term includes both the initial measurement and, for a newly detected constituent, the results of the single retest sample. To identify a newly detected constituent, the constituent must be detected (at trace level or above) and then verified by being detected in the single sample retest. When applied to leachate or landfill gas, the term indicates a way of determining which Appendix II constituents should be included in the landfill’s the COC list (once detected and verified, a constituent is added permanently to the COC list). When applied to ground water, the term indicates a way of determining which Appendix II constituents should be included in the landfill’s MPar list (once detected and verified at any given compliance well or background well, a constituent is added permanently to the MPar list). *{Note: for a landfill without an LCRS, delete the underlined words.}*

“**SOR**” means a federal Selection Of Remedy study, under 40CFR §258.57, which applies to any MSW landfill that has exhibited a measurably significant release over the applicable Water

Standard at any well along the Point Of Compliance for any Appendix II constituent. In California, this process is one in which the RWQCB, in the presence of any affected persons and other interested parties, considers all relevant factors and adopts a suite of corrective action measures — developed during the Assessment of Corrective Measures (ACM) study — which the discharger will apply during the CAP to remediate the effects of the release. Generally speaking, the studies serve the same function, under the federal approach, as the Evaluation Monitoring Program does under the State approach.

“**SW-846**” means the laboratory analytical guidance document published by the USEPA.

“**SWRCB**” means the California State Water Resources Control Board.

“**SWRCB Resolution No. 93-62**” means the order the SWRCB adopted in 1993 as State Policy For Water Quality Control (has the force of regulation) that applies to all MSW landfills and requires a composite liner for all portions of the landfill outside of its Existing Footprint, with rare exceptions, and requires the RWQCB to apply any requirement of 40CFR258 that is missing from, or broader in scope than, the SWRCB’s landfill requirements under Title 27. This order is available for viewing or downloading at <http://www.swrcb.ca.gov/cwphome/chap15/93-62.htm>

“**Tracking mode**,” for a given compliance well and monitoring parameter (well/MPar) pair, means a state in which there has already been a measurably significant increase (for that MPar at that well) such that the focus has changed from detecting the release to tracking it. In this mode, one keeps an up-to-date concentration versus time plot used in the six-monthly report validating the effectiveness of the corrective action measures (CAMs) — required under 27CCR §20430(h) — to demonstrate either that current CAMs are effectively remediating the release or to identify the need for proposing additional/changed CAMs under 27CCR §20430(i or j) and 40CFR §258.58(b). A well/MPar pair in this mode remains in this mode until the inception of the proof period following successful completion of corrective action.

“**Time Schedule Order (TSO)**” means a Cleanup and Abatement Order that includes an enforceable schedule of compliance for achieving listed milestones in the cleanup.

“**VOC**” means any of the volatile organic constituents that can be identified in a water or leachate sample under USEPA Method 8260 (see SW-846). The USEPA lists a subset of 47 such constituents in its Appendix I default monitoring parameter list (see Appendix I to 40CFR258).

“**VSRLF**” means a very small rural landfill that has demonstrated to the satisfaction of the RWQCB that it meets, and continues to meet, the qualifying preconditions, under 40CFR §258.1(f), for being exempt from the federal design criteria (see 40CFR258 Subpart D) and the federal monitoring requirements (see 40CFR258 Subpart E). In California, to qualify as being such a landfill, the Operating Record must include the RWQCB’s concurrence with the discharger’s demonstration under 40CFR §258.1(f). Such a landfill is still required to monitor pursuant to the Title 27 regulations and the federal exemptions cease to apply as soon as the landfill exhibits evidence of a release.

“**Water quality protection standard (Water Standard)**” means the multi-part system by which the discharger determines the compliance status of the landfill, with respect to the release of waste constituents. For each monitored medium, the term includes: the constituent of concern (COC) list and the monitoring parameter (MPar) list (i.e., the subset of COCs that are detectable

in the that medium); the concentration limit for each MPar at each monitoring point; the monitoring points (for the ground water medium, these are the compliance wells); and, for the ground water medium, the point of compliance. A violation of this standard occurs whenever a COC that is detectable in that medium (i.e., an MPar) produces a measurably significant increase over its applicable concentration limit at any monitoring point, as indicated by an appropriate statistical or nonstatistical data analysis method meeting the requirements of 27CCR §20415(e)(9). Such a violation triggers a change from detection mode to tracking mode for that well/MPar pair.

**“Well and monitoring parameter (Well/MPar) pair”** means a given monitoring parameter at a given well (typically a compliance well, unless a release is detected at a background well). The discharger tracks compliance with the Water Standard for each such pair; therefore, the minimum number of such pairs for the ground water medium is equal to the number of compliance wells times the number of MPars. At any given time, such a well and constituent combination will be either in detection mode or in tracking mode.

**“WC”** means the statutes in the California Water Code.

**“WDRs”** means Waste Discharge Requirements.